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| EXAMINER |
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| ART UNIT | PAPER NUMBER |
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2629

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/729,044

Applicant(s)

ALBERT ET AL.

Examiner

David L. Lewis

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 1. Claims 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheridan (5389945), Sheridan (4126854) incorporated by reference in view of Naoyuki (JP 01086116).**

As in claims 9 and 17, Sheridan (945) teaches of an electrostatically addressable display, figure 8, column 2 lines 1-20,

comprising: (a) a substrate, figure 8 item 28;

(b) an display medium disposed adjacent to said substrate, said display medium comprising a plurality of cavities dispersed in a polymeric matrix, figure 8 item 26,

wherein at least one of said plurality of cavities contains an electrophoretic conact media phase that includes at least one particle and a suspending fluid;

figure 3 item 37

and (c) a movable electrode, wherein application of electrostatic charge by said movable electrode to said display medium modulates an optical property of said display medium, **column 2 lines 1-20, figure 2 item 30, figure 8 item 80, figure 9 item 86**

However Sheridan (945) is silent as to said display being an electrophoretic display.

Sheridon (854) teaches encapsulated spheres 14 are an improved alternative to electrophoretic particle migrating displays because the electrophoretic displays have the problem of particles sticking to the electrodes and particles clumping together over a period of time. Sheridan also teaches magnetic particle displays have been introduced as an alternative in order to overcome the size limitations and power requirements of other displays as a display alternative. However the requirements of the magnetic field present its own problems. Sheridan implies the electrophoretic display would be a useful alternative to the twisting ball display if its problems could be solved.

Naoyuki teaches the problem provided by the electrophoretic particle migrating display can be solved by encapsulating the particles into microcapsules, giving Sheridan another viable display alternative, see the abstract. Because Naoyuki teaches of a known alternative to the twisting ball display of Sheridan and the problem noticed by Sheridan is solved by Naoyuki, it would have been an obvious design choice to the skilled artisan at the time of the invention to take advantage of the display employing the migration of color pigment particles to form an image on a matrix addressable panel, because said color features are useful for showing contrast on displays. Further wherein Naoyuki teaches of a plurality of microencapsulated particles dispersed in a fluid, said microcapsules being equivalent to the plurality of cavities dispersed in a polymeric matrix as claimed, and being substituted for the twisting balls of Sheridan.

Therefore it would have been obvious to the skilled artisan at the time of the invention to use and alternative to the twisting ball addressing device of Sheridan, by adapting the microencapsulated display of Naoyuki, into the twisting ball device of Sheridan, because such an electrophoretic particle migrating display has known color contrast advantages useful for display purposes as known in the art and suggested by Sheridan (854), as found in claim 9. Naoyuki provides the motivation to use the electrophoretic as a design alternative to the twisting ball display by solving the problem notice by Sheridan (854).

As in claim 10, Sheridan (945) teaches of wherein said substrate further comprises a clear conductive coating, column 2 lines 1-6, figure 3 item 54, column 4 lines 65-67, wherein the a thin conductive layers deposited is on the ground plane, Sheridan (854), figure 5 item 12 and 40.

As in claim 11, Sheridan (945) teaches of wherein said clear conductive coating comprises an ITO-coated polyester, column 4 lines 55-67, wherein said thin electrodes are made of ITO as known in the art.

As in claim 12, Sheridan (945) teaches of wherein the clear conductive coating is connected to ground potential, figure 3 item 54, column 4 lines 65-67, wherein the a thin conductive layers deposited is on the ground plane.

As in claim 13, Sheridan (945) teaches of further comprising a dielectric sheet disposed adjacent said display medium, column 3 lines 54-67, Sheridan (854), column 1 lines 5-15, column 4 lines 35-45, wherein the dielectric sheet is disposed next to the contrast medium.

As in claim 14, Sheridan (945) teaches of wherein said dielectric sheet further comprises a coating having low conductivity, column 3 lines 54-67, Sheridan (854), column 1 lines 5-15, column 4 lines 35-45, wherein the dielectric sheet is disposed next to the contrast medium.

As in claim 15, Sheridan (945) teaches of wherein said substrate further comprises an opaque conductive coating, column 6 lines 5-23.

As in claim 16, Sheridan (945) teaches of wherein said movable electrode comprises a stylus, figure 8 item 80, column 6 lines 4-23.

As in claim 18, Sheridan (945) teaches of further comprising the step of scanning said movable electrode over said display medium, column 3 lines 25-45, column 6 lines 15-23.

As in claim 19, Sheridan (945) teaches of wherein the step of scanning said movable electrode over said display medium is performed substantially contemporaneously with the step of applying an electrostatic charge from said movable electrode to said display medium, column 2 lines 1-20, column 3 lines 25-45, column 6 lines 15-23.

As in claim 20, Sheridan (945) teaches of wherein the step of scanning said movable electrode over said display medium and the step of applying an electrostatic charge from said movable electrode to said display medium are performed sequentially, column 2 lines 1-20, column 3 lines 25-45, column 6 lines 15-23.

As in claims 21 and 22, Sheridan in view of Naoyuki fails to explicitly teach of wherein no capsule membrane is present between said electrophoretic contrast media phase and said polymeric matrix, however said feature would have been an obvious design choice in view of Naoyuki, given the skilled artisan could obviously provide a single electrophoretic cavity instead of a plurality cavities given the display size and contrast needs. Where a small display including a single electrophoretic cavity would encompass the entire electrophoretic contrast media phase and said polymeric matrix, and therefore no capsule membranes would be present between said electrophoretic contrast media phase and said polymeric matrix, as found in claims 21 and 22.

Response to Arguments

2. Applicant's arguments filed 8/9/2006 have been fully considered but they are not persuasive. **Applicant argues** that Naoyuki does not teach that an electrophoretic medium can overcome all the problems which cause Sheridan to recommend against the use of electrophoretic media, hence Sheridan teaches away from using electrophoretic display media. The Examiner disagrees. As long as "one" of the problems encountered by Sheridan is solved by Naoyuki, said improvement is sufficient motivation for the modification of Sheridan in view of Naoyuki. As noted by the Applicant on page 6 of the response filed on

8/9/2006, Naoyuki solves three of the problems encountered by Sheridan, giving two additional reasons for the combination of Sheridan and Naoyuki. **Applicant argues** there is no suggestion in Sheridan that such a conductive coating be clear. The Examiner disagrees. Sheridan teaches that said layer is light transparent and therefore it reads on being clear because clear is equivalent/synonymous to transparent. **New claims 21 and 22** would have been an obvious design choice in view Naoyuki providing a single electrophoretic cavity making up the entire display medium, excluding the need for a plurality of cavities based on the design choice of providing a small sized display.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David L. Lewis** whose telephone number is **(571) 272-7673**. The examiner can normally be reached on MT and THF from 8 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached on **(571) 272-7681**. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571)-273-8300.
5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: David L. Lewis
October 28, 2006



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